



Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently amended) A method for reducing lock contention of concurrent transactions on a plurality of rows of a table in a relational data base system in response to a database query having a set of predicates, the method comprising the steps of:

(a) scanning all rows of the table within an access range determined by the query, wherein the scanning step (a) further comprising the step of:

(a1) accessing the rows of the table with uncommitted read semantics, wherein the accessing is performed through any current locks on the rows;

(b) evaluating each scanned row to determine whether the row satisfies the set of predicates, wherein the step of evaluating (b) includes

(b1) determining that a particular row does not satisfy the set of predicates of the query; and

(b2) skipping the particular row, including skipping the particular row when a lock is currently held on the particular row and an update on the particular row has not yet committed ~~is being performed~~ while the lock is held, and continuing the scan.

2. (Canceled)

3. (Canceled)

4. (Previously presented) The method of claim 25, wherein the returning step (b3) further comprises the steps of:

- requesting a lock on the row that satisfies the set of predicates;
- suspending the scan, if the requested lock is refused;
- repeating the request for a lock and re-evaluating the row when the lock is permitted;

and

- returning the row if the row still satisfies the set of predicates of the query.

5. (Previously presented) The method of claim 4, wherein the returning step (b3) further comprises the step of:

- releasing the lock, skipping the row, and continuing the scan if the row no longer satisfies the set of predicates of the query.

6. (Previously presented) The method of claim 25, wherein the returning step (b3) further includes the step of:

- returning the row as a result set.

7. (Previously presented) The method of claim 25, wherein the returning step (b3) further includes the step of:

- returning the row if the row is a committed row.

8. (Original) The method of claim 1, wherein the database query is a SQL statement.

9. (Currently amended) An apparatus for reducing lock contention of concurrent transactions on a plurality of rows of a table in a relational data base system in response to a database query having a set of predicates, comprising:

means for scanning all rows of the table within an access range determined by the query, wherein means for scanning further comprising:

means for accessing the rows of the table with uncommitted read semantics,

wherein the accessing is performed through any current locks on the rows;

means for evaluating each scanned row to determine whether the row satisfies the set of predicates, wherein the means for evaluating includes:

means for determining that a particular row does not satisfy the set of predicates of the query; and

means for skipping the particular row, including skipping the particular row when a lock is currently held on the particular row and an update on the particular row has not yet committed ~~is being performed~~ while the lock is held, and continuing the scan.

10. (Canceled)

11. (Canceled)

12. (Previously presented) The apparatus of claim 26, wherein the means for returning further comprising:

means for requesting a lock on the row;

means for suspending the scan, if the requested lock is refused;

means for repeating the request for a lock and re-evaluating the row when the lock is

permitted; and

means for returning the row, if the row still satisfies the set of predicates of the query.

13. (Original) The apparatus of claim 12, wherein the means for returning further includes means for releasing the lock, skipping the row, and continuing the scan, if the row no longer satisfies the set of predicates of the query.

14. (Previously presented) The apparatus of claim 26, wherein the returned row is returned as a result set.

15. (Previously presented) The apparatus of claim 26, wherein the row returned is a committed row.

16. (Original) The apparatus of claim 9, wherein the database query is a SQL statement.

17. (Currently amended) A computer readable medium containing programming instructions for reducing lock contention of concurrent transactions on a plurality of rows of a table in a relational data base system in response to a database query having a set of predicates, the programming instructions for:

(a) scanning all rows of the table within an access range determined by the query, wherein the scanning instruction (a) further comprising the instruction for:

(a1) accessing the rows of the table with uncommitted read semantics, wherein the accessing is performed through any current locks on the rows;

(b) evaluating each scanned row to determine whether the row satisfies the set of predicates, wherein the instruction for evaluating (b) further comprises the instructions for:

(b1) determining that a particular row does not satisfy the set of predicates of the query; and

(b2) skipping the particular row, including skipping the particular row when a lock is currently held on the particular row and an update on the particular row has not yet committed ~~is being performed~~ while the lock is held, and continuing the scan.

18. (Canceled)

19. (Canceled)

20. (Previously presented) The computer readable medium of claim 27, wherein the returning instruction (b3) further comprises the instructions for:

requesting a lock on the row;

suspending the scan, if the requested lock is refused;

repeating the request for a lock and re-evaluating the row when the lock is permitted ;

and

returning the row if the row still satisfies the set of predicates of the query.

21. (Previously presented) The computer readable medium of claim 20, wherein the returning instruction (b3) further comprises the instructions for:

releasing the lock, skipping the row, and continuing the scan if the row no longer satisfies the set of predicates of the query.

22. (Previously presented) The computer readable medium of claim 27, wherein the returning instruction (b3) further includes the instruction for:

returning the row as a result set.

23. (Previously presented) The computer readable medium of claim 27, wherein the returning instruction (b3) further includes the instruction for:

returning the row if the row is a committed row.

24. (Original) The computer readable medium of claim 17, wherein the database query is a SQL statement.

25. (Previously presented) The method of claim 1 wherein the step of evaluating (b) includes

(b3) determining that a row satisfies the set of predicates of the query, and
returning the row.

26. (Previously presented) The apparatus of claim 9 wherein the means for evaluating includes means for determining that a row satisfies the set of predicates of the query, and for returning the row.

27. (Previously presented) The computer readable medium of claim 17 wherein the instruction of evaluating (b) includes instructions for:

(b3) determining that a row satisfies the set of predicates of the query, and
returning the row.